

BASIS FOR THE AMENDMENT

Claim 22 has been canceled.

The amendment of Claims 1, 10, 18 and 21 is supported, for example, by Claim 2 and Figure 4.

New Claims 23 and 24 have been added as supported by the specification as originally filed.

No new matter is believed to have been added by entry of this amendment. Entry and favorable reconsideration are respectfully requested.

Upon entry of this amendment Claims 1-21, 23 and 24 will now be active in this application. Claims 5-8 and 13-16 stand withdrawn from consideration.

REMARKS

Applicants respectfully request reconsideration of the application, as amended, in view of the following remarks.

The rejections of the claims over Toray, Ohmory et al and Howard are respectfully traversed.

Claims 1 and 21 each claim polyvinyl alcohol fibers and not blends of various polymers that are spun into fibers as Toray. In **new Claims 23 and 24** this has been further clarified by claiming that the fibers consist of polyvinyl alcohol.

In contrast, in Toray, a blend of polyvinyl alcohol, polyacrylonitrile and acrylonitrile vinyl alcohol graft copolymer is dissolved in a solvent and spun and drawn to give fibers. Thus, the claimed polyvinyl alcohol fibers of the present invention cannot be anticipated by the fibers containing a polymer blend as disclosed in Toray.

Further, Toray is outside the field of endeavor of the present invention. The blend fibers of Toray are used as a paper substitute. See the abstract. Thus, a person of ordinary skill in the art would not look at Toray to develop flat polyvinyl alcohol fibers for non-woven fabrics as in the present invention. See page 2, lines 21-25 of the original specification.

Further, the examples in the specification show that excellent fibrillability, hydrophobicity, chemical resistance and wiping potency are obtained using the claimed fiber of the present invention. Table 1 below is copied from page 14 of the specification.

Table 1

	Cross-Sectional Profile	D (μm)	L/D	Fibrillability Microscopic Observation	Hydrophilicity		Chemical Resistance		Wiping Potency	
					Water-Absorbing Speed (mm/5 min)	Result	Dissolution (%)	Result	Residue after Wiping (%)	Result
Example 1	flattened	3	15	good	124	good	<1	good	4.0	good
Example 2	flattened	3	21	good	128	good	<1	good	3.1	good
Example 3	flattened	3	25	good	123	good	<1	good	5.0	good
Comparative Example 1	flattened	3	4	not good	125	good	<1	good	14.8	not good
Comparative Example 2	cocoon-shaped	-	-	not good	111	good	<1	good	15.1	not good
Comparative Example 3	rounding	-	-	good	98	not good	19	not good	9.8	not good

As stated at page 15, 1st paragraph of the specification:

The PVA fibers of the present invention may be readily split into single fibers, when having received shear force applied thereto. They can be readily fibrillated without compromising the physical properties such as the chemical resistance, the hydrophilicity the weather resistance and the tenacity thereof. The fibrillated fibers may be formed into dry-process or wet-process nonwoven fabrics. In addition, the dry-process and wet-process nonwoven fabrics formed of the fibrillated fibers of the present invention are superior to those formed of conventional fibrillated fibers in point of the water absorbability and the wiping potency thereof. Further, when the fibrillated PVA fibers of the present invention are sheeted along with a cement slurry, then they may form wet-process slates. When the fibers of the present invention are kneaded with plastic or rubber, then they may form plastic or rubber products reinforced with the fibrillated PVA fibers.

The excellent properties of the claimed PVA fibers having the claimed dimensions is not disclosed or suggested in Toray, Ohmory et al and Howard.

Ohmory et al and Howard do not cure the defects of Toray. Howard was only used to show the use of fillers. Ohmory et al and Howard as well as Toray fail to disclose or suggest polyvinyl alcohol fibers having an extremely (thinly) flattened cross-sectional profile and having a mean thickness D (μm) that satisfies the following formula (1):

$$0.4 \leq D \leq 5 \quad (1),$$

wherein

$$D = S/L;$$

D indicates the mean thickness (μm) of the fibers which is a mean length (μm) of the minor side of the cross section of the fibers;

S indicates the cross-section area (μm^2) of the fibers; and

L indicates the length (μm) of the major side of the cross section of the fibers.

Therefore, the rejections of the claims over Toray, Ohmory et al and Howard are believed to be unsustainable as the present invention is neither anticipated nor obvious and withdrawal of these rejections are respectfully requested.


The rejection of the claims as being indefinite is obviated by the amendment of the claims as supported, for example, by Claim 2 and Figure 4 as originally filed.

This application presents allowable subject matter, and the Examiner is kindly requested to pass it to issue. Should the Examiner have any questions regarding the claims or otherwise wish to discuss this case, he is kindly invited to contact Applicants' below-signed representative, who would be happy to provide any assistance deemed necessary in speeding this application to allowance.

Respectfully submitted,

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